AMENDMENTS TO THE CLAIMS:

Claim 1 (previously presented): A vector for trapping an unknown gene of *Drosophila melanogaster*, which is a recombinant plasmid comprising the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a reporter gene;

a promoter directed drug resistance gene;

a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and

a synthetic splicing donor site.

Claim 2 (previously presented): The vector of claim 1, wherein the recombinant plasmid is made by inserting the promoter directed drug resistance gene into pCasper3.

Claim 3 (previously presented): The vector of claim 1, wherein the reporter gene is the Gal4 gene.

Claim 4 (currently amended): ~~The~~ A vector for trapping an unknown gene of *Drosophila melanogaster*, ~~of claim 3,~~ which vector has the nucleotide sequence of SEQ ID No. 1.

Claim 5 (previously presented): The vector of claim 1, wherein the reporter gene is Gal4 DNA binding domain-P53 fusion gene.

Claim 6 (previously presented): The vector of claim 1, wherein the reporter gene is the Gal4-firefly luciferase fusion gene.

Claim 7 (previously presented): The vector of claim 1, wherein the gene responsible for a detectable phenotype of the *Drosophila melanogaster* is mini-white gene.

Claim 8 (currently amended): The vector of claim 1, wherein the drug resistance gene is neomycin-phosphotranspherase gene and the ~~resistance gene~~ promoter directed drug resistance gene is a heatshock promoter.

Claim 9 (previously presented): A vector made by inserting a heatshock promoter directed Gal4 activator domain-large T antigen fusion gene into the polycloning site of the pCasperhs.

Claim 10 (currently amended): A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector which is a recombinant plasmid comprising the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a reporter gene;

a promoter directed drug resistance gene;

a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and

a synthetic splicing donor site,

which method comprises the steps of:

(a) introducing the vector into the genome of a white minus fly;

(b) selecting primary transformants containing the vector ~~resistant to a drug to which transformants having the drug resistance gene are survivable~~;

(c) crossing the primary transformants with a transposase source strain to force the vector to jump into other locations;

(d) selecting secondary transformants by picking up the flies having strong eye color,

(e) crossing the secondary transformants with UAS (Upstream Activator Sequence)-luciferase harboring strain and measuring the reporter gene expression of the resultant flies; and

(f) identifying the trapped gene by cloning and sequencing the cDNAs fused to the reporter gene and the gene responsible for a detectable phenotype of the fly.

Claim 11 (previously presented): The method according to claim 10, wherein the recombinant plasmid is made by inserting the promoter directed drug resistance gene into pCasper3.

Claim 12 (previously presented): The method according to claim 10, wherein the reporter gene in the vector is the Gal4 gene, and in the step (e) the Gal4 expression is measured.

Claim 13 (previously presented): The method according to claim 10, wherein the reporter gene of the vector is the Gal4-firefly luciferase fusion gene, and in the step (e) expression of said fusion gene is measured without crossing the secondary transformants with UAS-luciferase harboring strain.

Claim 14 (previously presented): The method according to claim 10, wherein the gene responsible for a detectable phenotype of the *Drosophila melanogaster* is mini-white gene, and in the step (f) the cDNAs fused to the reporter gene and the mini-white gene are cloned and sequenced.

Claim 15 (currently amended): The method according to claim 10, wherein the drug resistance gene is neomycin-phosphotranspherase gene and the ~~resistance gene~~ promoter directed drug resistance gene is a heatshock promoter, and in the step (b) the transformants resistant to G418 are selected.

Claims 16-19 (cancelled)